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THE  
DISTINCT SYMPTOMS  
OF THE  
GRAVEL and STONE,  
Explained to the PATIENT.

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T H E  
D I S T I N C T S Y M P T O M S  
O F T H E  
G R A V E L and S T O N E,  
Explained to the P A T I E N T ;  
In all their S T A G E S and C I R C U M S T A N C E S .

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Printed for J. D A V I S , in *Piccadilly* ; and M. C O O P E R ,  
in *Pater-noster-row*. M. DCC. LIX.

THE  
DISTINCT SYMPTOMS  
OF THE  
GRAVEL AND STONE  
Explained to the Patient;  
In all cases, Stages and Complications





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THE  
DISTINCT SYMPTOMS  
OF THE  
GRAVEL and STONE.

**H**UMAN nature is liable to no Disease more terrible than the stone ; nor are the lesser stages of that malady exempt from pain or danger : There is none in which a knowledge of the nature of the disorder can be more essential to the patient ; for he may always, if he understands his Case, prevent the aggravation of the symptoms and encrease of the disease, and often cure himself entirely by a proper regulation of diet and exercise ; and a few simple medicines. But essential as this knowledge of the distemper is to the health and ease of the afflicted, there is none in respect of which it is so difficult to be obtained. The ancients have written obscurely

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of

of it, and perhaps, notwithstanding their great names, it is but truth to add, ignorantly: Little is to be learned from these authors ; and the late writings on the same subject are calculated to mislead. The age has given into the folly of a belief in medicines that could dissolve the stone, a belief little less ridiculous than that in the powder of projection ; and the legislature with an honourable intention purchasing the secret of such a remedy, gave an uncommon sanction to the opinion. We now know the principles upon which that belief was established were erroneous: The dissection of persons who had been supposed cured, shewed they were not ; and the hope of a cure for that most extreme stage of the disease is lost. This is not all the disadvantage we have suffered by that accident ; the disputes upon this particular point have influenced the late writings on the disease ; and men who were able to have conferred the greatest obligation on the afflicted, by acquainting them with the true nature of the disease, have been influenced by their partialities, by interested views or personal animosities, instead of that honest desire of doing service to mankind, which should be sacred in all that kind of writings.



IN this state of the case, the author of the present treatise undertakes the subject; not from a vain opinion of his superior talents, but because he sees more moderate abilities with a better intention, may do some service to mankind. The miserable mistakes into which he has seen some patients led, (for there are many who prefer a doctor's writings to his immediate advice,) and the miserable consequences he has seen attend them, have been the occasion of this undertaking, in which he hopes a proper education and some experience, will place him beyond all danger of gross errors; and his only purpose in which is to give those who suffer under these disorders, the satisfaction of mind which will arise from a certain knowledge of their case, and the comfort and assistance of rational advice. He does not mean to supersede the use of physicians by a written treatise, for particular symptoms require particular advice; nor would such an attempt be less injurious to the patient, than to himself and others of the faculty: What he intends is plainly this; To acquaint the patient with his case, and direct his general conduct; by which he may in those times, when a physician is not necessary, take a right care of himself; by which he may know when more advice is needful; And, what is

much more important, whether that which is given him is rational and right. A good physician will wish his patient to have always so much knowledge of his own case ; and medicine would do less mischief, if the ignorant always feared it.

## C H A P. I.

### *Of the general Symptoms of GRAVEL and STONE.*

**G**RAVELLY complaints begin so lightly, and advance so slowly toward their states of danger, that they afford the patient a great opportunity of combating them in their approach ; nor is there any, the progress of which is more easy to be checked. The misfortune is, that the first symptoms are not understood ; and the first fits, which are always slight, and have usually long intervals, are too little regarded : and thus the great opportunity of relief is trifled away and lost. The assistance of an apothecary brings the patient through the fit, and he does not consider that he should expect another : whereas he should know, that the same disposition to form these concretions remains in his body, and will certainly increase  
upon



upon him. The conduct we shall advise, and the medicines we shall direct, will be of use in all periods and stages of the distemper, alleviating the symptoms, and preventing its growing worse: but in this early state of the disorder, their effect will be greatest of all.

THE first symptom of the Gravel is a pain after making water; this is felt in the extremity of the part, which seems as if it were cut with a knife: this is a certain presage of these complaints, though it precedes them usually a long time; often many years. The patient does not understand this, and therefore does not speak of it. I hope regard will be paid to this early symptom for the future, for so far as some particular instances may justify the assertion, I have a right to say, a perfect cure, and an absolute prevention of all return, is easy at this period.

THE next symptom to this is a peculiar kind of colick, attended with an inclination to go to stool, but without the power of voiding any thing. This also is often mistaken for a common disorder of the bowels. The voiding a very small stone puts an end to it: this is not observed, and the apothecary

cary is supposed to have cured it with his anticolicks.

IN the more advanced state, the pain and colick return, and there is a nausea and sickness of the stomach, a numbness down the thigh on that side where the stone lies, and a violent pain in the back. Even this I have known still mistaken. I have seen the sickness attacked with salt of wormwood draughts, and once found a country surgeon fomenting the leg and thigh with a decoction of chamomile and rosemary.

THE next stage of this disease affords symptoms which it is impossible to mistake. The pains in the back become intolerable; and the sickness causing a continual reaching and vomiting, all the other symptoms are aggravated, and in the end, without the assistance of medicines, or in spite of bad ones, a stone is discharged so large, that it gives pain in the passage, and is heard falling into the pot. This leaves no doubt of the case; but it is then a very late period to attempt a cure; the juices have a confirmed disposition to separate a stony matter, and the parts to detain it till it forms large concretions. Happy will be the patient who, from this account of the progression of the symptoms, under-  
stands



stands his disease in better time: for when taken early, the relief is easy.

VARIOUS constitutions will make a difference in these symptoms and their progression; and there are other accidental ones which occasionally are perceived together with these, and denote the kind as well as the degree of the complaint. Of these we shall treat in the succeeding chapters. It is also to be observed, that all these regard the formation of gravel and stones in the kidneys, and their discharge thence into the bladder: and in these general symptoms all the degrees and kinds of those distempers agree.

THE Stone in the bladder is a peculiar case; it is formed where it lies, and not affecting the kidneys or ureters, does not produce this gradation of symptoms. What has been here laid down, is to be understood as a general detail of the effects of the other cases; and we shall proceed to examine them particularly as they are varied by the distinct nature of the complaint. By the preceding symptoms, the patient will know whether or not he have the Gravel or Stone; and by the following distinctions he will understand the nature and degree of his disorder.



## C H A P. II.

*Of the various Kinds of Gravelly Disorders.*

**B**Y gravelly disorders we understand all the complaints occasioned by a separation of a stony matter from the urine ; and of these there are four kinds. 1. The GRAVEL distinctly so called. 2. The CONCRETION OF SMALL STONES IN THE KIDNEYS, WHICH ARE AFTERWARDS DISCHARGED BY URINE. 3. THE CONCRETION OF LARGE STONES IN THE KIDNEYS ; and, 4. THE STONE IN THE BLADDER.

GRAVEL, or LOOSE SAND, is voided by many persons in great quantity by urine, who have no disorder from it at all. Often they discharge it without any previous symptom, and the utmost they ever feel from it, is a sense of a weight in the loins, and the pain at the end of the part after making water. If these persons could be sure their complaint would never alter its nature, it would not be needful they should regard it : but this cannot be known. Though they pass through the earlier part of life without inconvenience from it, they are generally attacked in another manner

manner towards the decline ; for this gravel then concretes into smaller or larger stones.

WHILE the body is in its vigour, the parts are strong and capable of performing all their functions perfectly, and the urine is pure, and of its natural constitution ; but an alteration may happen in either of these circumstances ; and from this, whichever be the subject, stones may be formed ; much more from both uniting. If the kidneys lose that force by which they were able to discharge gravel, if they become more lax in their texture, and permit a quantity of it to lodge : and if the urine, at the same time, become of a viscous nature, or contains only some viscous matter in it, this falling upon the mass of sand, will bind it together into one large, or several lesser stones ; and these will be the origin of the second or third of the disorders we have named.

EVERY man therefore who has the Gravel, should understand that he is therefore liable to have the Stone ; and he will be wise, if he keep always upon his guard to prevent it. The methods we shall lay down in a succeeding chapter : the subject will be more clearly explained, by following the disease here through the several succeeding stages.



SMALL STONES in the kidneys are formed of the particles of loose gravel, many of which adhere together by means of their resting in a place where there is some viscous humour to connect them ; and they are after this increased in size, and rendered more firm by means of new gravelly matter which falls upon them, and adheres to them.

THAT this is the true construction of those small stones voided by urine after the fits in this stage of the distemper, is obvious to the senses. They are of the same orange colour with the gravel itself ; if laid upon a paper they may be broke to pieces only by the pressure of a finger, and when thus broken, they are seen in their original form of sand.

THESE stones are smaller and more brittle in the first stages of the disease, and they become larger and harder afterwards ; the principle of concretion never failing to encrease in the body unless prevented by medicines.

THIS is the most common of all gravelly complaints, and according to its different stages it brings on the several symptoms already named, in a more and more aggravated degree as it encreases.

DURING



DURING the intervals between the fits, which at first are often very long, the patient enjoys perfect health. On the approach of a fit, the symptoms appear in the following order : first, a numbness and a kind of weight is felt about the kidneys, and this principally on one side, the right or left, according to which of the kidneys it is that is affected ; for it is rarely both together. After this comes on a pain, not sharp and cutting, but as if the substance of the kidney were bruised by some heavy body. This is the patient's sensation while the stone lies in the kidney : it is thence to be delivered to the ureter, and through that is to pass to the bladder. On its first motion the pain encreases, and begins to alter its nature, a pricking is perceived, and a kind of soreness, and the patient finds he cannot move his back without difficulty and encreasing the pain. Soon after the stone gets into the mouth of the ureter, and then come on the several painful symptoms. The ureter into which it is received, is much too small to let it pass, and must be stretched for that purpose with great violence and pain. The patient feels this too severely not to know its nature. There is a sensation of stretching and tearing, which continues dur-

ing the whole time the stone is making its passage, which is sometimes finished in three or four hours, but sometimes is much longer; in established cases many days.

DURING this forcible passage of the stone, the nerves from that part of the back become affected, the patient is more unable to move himself, a numbness is felt down that thigh and leg, and the testicle on the same side is drawn up toward the belly, the other keeping its usual place. There is a sense of tightness round the belly, and an increased stiffness along the backbone: vomitings, and a most painful colick attend these symptoms; and tho' the patient feels the most extreme desire to go to stool and to void his urine, neither is done naturally or in any quantity, the stone in its passage stopping in some degree, as it were, all the animal functions. These symptoms continue till the stone has made its way through the ureter, and is fallen into the bladder. The patient has no certain knowledge of this but from the ceasing of the pain, he becomes easy at once and seems as if cured by a miracle; the stone is afterwards voided with the urine, and he is well for that time.



As soon as the stone is fallen into the bladder, nature resumes all her former operations; the urine, of which there was very little made before, is now secreted in the usual quantity, or more than that, and the discharge by stool becomes as before the fit. The patient is well; but he is to expect returns: against these it is his business to guard. Having thus shewn the nature of the case, the reasons of the conduct we shall prescribe will be understood. One farther distinction it may be useful to add before we close this section. As the colicky pain is one of the first and most obvious symptoms of this disease, let the patient understand how he may distinguish this, as it belongs to the Gravel, from a common colick. In a colick wherein only the bowels are affected, the pain is not fixed to one part but moves about; eating encreases it, and the discharges by stool or vomit give ease. On the contrary, the pain in this colick arising from the Stone in the ureters is felt along the course of those vessels, and never higher or elsewhere; eating, if the sickness will permit that assistance, relieves for a time; vomiting eases only for a moment; the discharges, where any can be made, by stool not at all.



THE patient accustomed to gravelly complaints, will not be easily deceived on this head; but in the first fits the mistake is easy, and the distinction is very needful, because the same medicines are not proper.

A LARGE STONE IN THE KIDNEYS is a disorder far more terrible than this; but it is less common. Nothing can be more essential than the making this understood, because the sole hope is in guarding against it in time; a cure when it is established being almost beyond hope.

To understand this case we are to refer to the two preceding. Loose gravel is deposited in the kidneys in the first, and in the latter the particles of this gravel become united into a small stone, or into several such. The difference between the latter of those cases and the present, is only in the bigness of the stone or stones: If these can be discharged thro' the ureters, the case becomes what we last described; but 'tis only to a certain size that can happen. When a stone in the kidney is so large that its passage is impossible, it must remain there, and it will encrease in size or others will accumulate about it; for the same principle remains in the constitution: The more it encreases the more the complaint

plaint becomes confirmed, and the hope of a discharge of it by urine will be vain. This is the case of a large stone in the kidneys, the symptoms and consequences of which vary extremely, according to the constitution of the person and his method of life.

STONES have sometimes encreased to a vast size in the kidneys without any inconvenience: Dissection has discovered them in persons who were never known to make any complaint of this kind. Nature has given us two kidneys, that if one should be perfectly obstructed from such a cause, the other might discharge the office of both; which has often been the case without the knowledge of the patient: In other cases where both have been loaden with vast or numerous stones, the urine has yet been secreted and the thing unknown. The kidneys have not an exquisite sensation, as we know by the former cases; and while they can perform their office, the accident is unperceived.

THIS may be great comfort to the person afflicted with the disease in this manner; for tho' the cure is not to be expected, he sees it possible the disorder may be of little consequence.



THE distinction is a great one, and it is this; if the urine can find passage, and the stones be quiet, all is well: If suppressions of urine follow, the case becomes more terrible; if ulcers attend the stone, it is still worse. A great deal in this case depends upon the state of the blood and proper conduct of life, and due attention to the complaints may prevent both the one and the other.

THE symptoms of this disorder in its lesser stages, are a sense of weight in the loins, and a difficulty of moving the back: And often this is all: when the case grows worse from nature, or, as is more frequently the case, is aggravated by intemperance or an irregular conduct. A pain follows but not sharp; and sickness, faintness, and a difficulty of urine: in extreme cases the anguish becomes more violent, and the worst sign of all purulent urine follows.

THE STONE IN THE BLADDER, the extreme and the most terrible case of all, differs not in place only, but in its nature from the rest; all these have for their origin loose gravel, though sometimes the particles are so fine as to delude the eye; and thence there are stones in the kidneys which seem nearly allied to those of the bladder.



IN the Stone in the bladder, the matter appears to have been separated from the urine in form of a fine powder; and to have made the stone by surrounding and inclosing every way some small rudiment; within a multitude of shells or coats. As these are more numerous the mass becomes larger, and there are instances of such as scarce could be credited.

As the nature of this disease is different from the others, so are its symptoms. As there is room in the bladder, the stone occasions at first no pain; and there is nothing in the course of this disease more unhappy, than its unknown beginnings: what hope there could rationally be of cure, would be during the earliest stages; but in these it is secret and unobserved. Afterwards the symptoms come on irregularly; and they encrease, though slowly, yet certainly.

THE patient, while making water freely, and in a good stream, finds it stop in a moment, though he feels that he has not done. This often is the first symptom of a stone in the bladder, and it cannot be mistaken; for there is no other cause that could produce it. The stone is at this time grown to a size too large to be voided, and the sudden stopping of the urine happens from its being brought

just upon the passage. This gives the alarm ; and plainer symptoms, and more painful, follow : a gnawing pain at the end of the part, after making water, different from that cutting sensation produced by the stone in the kidneys, and more terrible ; it is also more constant, and there is a sensation as if a drop of the urine were left just in that place.

As the stone encreases in size, a weight is felt in the bottom of the bladder, and a continual desire of making water, though it can be voided only by drops. Between the times of making water an itching is felt in the end of the part, and the forenefs is encreased afterwards. Then comes on a desire of going to stool, tho' without power to void any thing ; and after this a falling down of the fundament. If the case be mistaken for a strangury, the medicines give no relief : frequent and painful priapisms follow, and often a thick foul matter is discharged by urine ; or, after violent exercise, blood.

THESE are the symptoms of a stone in the bladder : but there may be more assurance than all these, for it admits of proof. The surgeon by introducing his catheter into the bladder, which may be done with very little pain, may feel the stone, and there can be then no doubt of the case.

THIS



THIS disorder, like the preceding, has various conditions, according to the state of the patient's body, and his manner of life : in some a stone will remain many years in the bladder without giving any pain ; and there have even been instances of many large ones at the same time in the bladder, which not only escaped the knowledge of the patient, but of the surgeon. This is owing to the peculiar conformation of the body, or to the effect of certain medicines : but the course of life will also make a great deal of variation : intemperance will aggravate all the symptoms, and the regular attention to a proper diet, will render them much more easy to be born.

### C H A P. III.

*Of the general Regimen for Persons afflicted with these Disorders.*

THERE is so much resemblance between the four kinds of gravelly disorders, that one general conduct of life may be laid down, before we proceed to the particular directions necessary in each case. All persons subject to the disorder, should observe this common course, which will pre-



vent the encrease of the complaint, or the aggravation of the symptoms.

THE substance of which gravel is formed, is contained in all our food, but in the strongest kinds most, and of all liquors most in wine: these therefore are to be avoided by those who find themselves in danger of this disease: but there is another article which demands yet greater attention; this is the state of the body. A great deal of gravelly matter may be received into it while all the parts are strong and healthy, and will be discharged without mischief; but the very least, when these organs are disordered, will be detained, and will collect more, so as to bring on one or other of the disorders we have described. This is proved in the case of infants, who have often the stone in the bladder, though they never tasted strong foods or wine; and it is repeated in a different instance in the case of some very old men, who, though remarkably abstemious, are afflicted with the same disease.

THE number of these latter is much greater than we know, for many go to their graves with large stones which have never given them any trouble; their constitution may have

have favoured them in this, and their temperate life certainly has assisted.

BOTH these instances are proofs that the weakness of the animal faculties, will make a very little occasion produce gravel; for in infancy the constitution has not arrived at its strength, and extreme age has lost it: but let not any think, for this reason, that temperance and a regular diet are of no consequence: there is often a slight tendency in the constitution to these diseases; and the conduct of life alone, in that case, determines whether the patient shall suffer a very little, or a great deal; or whether he shall be a miserable martyr to the complaint, or go perfectly free.

IT has been said, boldly perhaps, but not unreasonably, that the foundation of the stone is laid in the stomach: for if digestion be not properly performed, no part of the body can be rightly nourished; and the disorders of those organs, by which the urine is secreted, are truly the cause of the gravel. They have determined wisely, who call Gravel and Stone a symptom of a disease in these organs, not originally or properly a disease itself. On these principles the prevention of the Gravel and Stone in those who have reason  
son



son to fear them, and the alleviation of the symptoms in those who are actually afflicted by these complaints, will depend upon one and the same course of life ; the regulation of which depends on these two articles :

1. The avoiding strong foods and wine.
2. The preserving strength and vigour in the body.

HEALTH, strength, and vigour, are preserved by air and exercise, with the first recommended article temperance ; and with a due attention to these, even constitutions very liable to the Gravel and Stone, may often escape entirely, or at the worst with very moderate attacks.

THE air for persons in danger of these disorders should be clear and cold ; various complaints require different kinds of situation for the health of the person ; and for this his habitation should be on high ground, and clear from trees. Having this air about him, he should take all opportunities of enjoying it free and clear.

WHATEVER is given to the perspiration, is in a great measure taken from the urine ; and this secretion in persons affected with, or but in danger of gravelly complaints, should be promoted



promoted by all innocent means, not stay'd or interrupted by any.

EXPERIENCE shews that diuretick medicines given in these complaints, take their effect much sooner when the person walks into the cold air, than when he keeps in a warm chamber : and he should be aware of this in all his conduct.

NEXT after air, exercise is to be considered ; and in general it is proper to use as much of this as can be taken without pain or inconvenience. No more can be said of it in this place ; for that degree of exercise which is proper for some gravelly complaints, will bring on the most terrible symptoms in others : the particular kind and degree must therefore be suited to the nature of the case, and will be delivered separately under each head in the succeeding chapters. What is universally true, is this, that a life without exercise, disorders all the animal powers, and they are all necessary in these cases in their best strength ; therefore what can be born without hurt, must not be omitted.

EARLY rising is necessary to all patients in these disorders ; for the lying in bed reduces the secretion of urine by the plentiful sweats it produces ; and there is another reason

son as essential to the patient's mind, as this to the body ; that is, early rising gives strength to the nerves ; and all persons afflicted with these disorders, are low-spirited, and subject to the worst nervous disorders.

As we have declared against intemperance, early hours at night will be natural : and they are necessary to the timely rising in the morning. When gravelly complaints are attended with no other disorder, this course of life will keep the constitution vigorous, and prevent the great occasions of the distemper's gathering strength. The pain will be better born, as the patient has more spirits : The few medicines we shall direct, if regularly taken, will abate the painful symptoms in the worst kinds, and prevent the aggravation of the others ; or make a perfect cure. A few medicines are sufficient for the patient, the rest are for the doctor, or his minister the apothecary.

#### C H A P. IV.

*Of the Cure of GRAVEL, distinctly so called.*

**W**E have observed that loose gravel is often voided unobserved, and the greatest quantities of it, while the particles continue loose,



loose, may be carried off with very little trouble : but the patient sees how easy the transition is from this disorder to small stones in the kidneys ; and he should be upon his guard to prevent it.

THE two causes of this change are the lodgment of it on the part, and a distempered condition of the urine : let him be always attentive to guard against the first by exercise, and against the other by a temperate life : Exercise will save him doubly, both as it prevents the lodgment of the matter, and as it tends to give health and vigor to the body in general ; nor will he have less benefit from a regular course of living : It will not only prevent that state of the urine which converts gravel into stone, but will obviate also the encrease of the gravel by the avoiding wine, which most of all things promotes it.

THE air cannot be too bleak for a person who has this complaint ; nor any exercise too violent : let him fix his habitation on a hill open to all quarters of the heavens, let him rise with the sun or before it, and let him hunt, shoot, and pursue, according to their seasons, all the other manly diversions.

LET his food be plain and he may eat it heartily, two meals a day will be better than

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three ;



three ; but if he please he may indulge himself so far as a supper : if he does let it be light. What I have found the best course is to breakfast early and heartily, to pursue the morning's diversions till late in the afternoon, and the appetite will then be ready for so good a dinner that there will be little call for a supper after it.

LET him avoid wine as he would poison ; and red wine most of all ; Rhenish or hock, or tent, if any, should be used, and of these but little : Mild home-brewed ale is the best strong liquor, and for the rest small beer strong enough for keeping. If any thing more be required whether for spirit or variety, the best addition is rum punch ; let this be made weak and drank warm, and the less acid there is in it the better.

THIS should be the general course of life : but as the Gravel even where it is unperceived by the person, is still a disease, he should bestow some attention to the particular symptoms.

IF he perceive at any time a pain and weight in his loins, with a stiffness in his back, especially if at the same time there comes on a dejection of spirits : If he finds himself uneasy and restless, yet not well able to move,  
low

low-spirited without cause, and peevish against those who give him no offence, let him be upon his guard: he may be assured gravel has lodged in his kidneys in an unusual manner; and this is the first advance of it toward forming stones. Whether or not that effect would follow depends upon two things, his own conduct with respect to exercise, and the state of the urine at that time; if he indulge that languidness which comes on with it, and if the urine be of that kind which contains agglutinating matter, the particles of the gravel which now lie loose in the kidneys, will be formed in a few days into small stones; and he will fall into all the symptoms we have described under the second kind of gravelly complaints. What is worse, is that the parts having got this disposition, it will continue; gravel having once lodged mischievously, will be so much the more ready to do it again, and larger stones will follow the small ones formed at first.

AGAINST this let him guard by the timely cautions we direct, let him rise earlier than ordinary, be more out in the air, walk, ride, and use every kind of exercise. The disposition he finds to keep still, will go off when he resolutely combats it; and tho' he at first have pain



from the motion, it will soon cease : At the same time let him take the following effectual and not disagreeable medicine.

Cut to pieces two ounces and a half of the roots of GOLDEN ROD, fresh taken up and clean washed; and six ounces of the roots of the little white flowered mallow: boil these a quarter of an hour in five pints of spring water, then let it stand to be cold together, pour off the liquor thro' a sieve without pressing the ingredients; and let it stand two hours again to settle: then pour off what is clear, add to it as much syrup of capillaire as will give it an agreeable sweetness, and drink it at four doses, one every five hours.

I MAY be permitted to speak what I have seen: I have known a quantity of red gravel voided in twelve hours from the time of taking the second, to two hours after the fourth dose of this medicine, which has astonished the patient and all about him: and the symptoms have all vanished.

THIS is not used in the common practice, for the benefits of nature are too little known; we have simple remedies in our fields able to relieve us in most disorders, but they grow disregarded: Let the patient do them honour if the physician will not. They are  
not



not only powerful in the cure, but they leave the body afterwards as they found it: whereas none can tell what are the bad effects of rough medicines, nor when they are thoroughly out of the constitution.

THE GOLDEN ROD is common in many places: Hampstead-heath abounds with it; and the little mallow is every where about our doors: This latter has the effect of the marsh-mallow, and all that tribe, but better. As to the other its virtues have been long known, though they have been also long neglected: from what I have seen there will only require more use of it, to bring it into greater credit; and I think it may be safe to say, this stage of the disease requires no other medicine.

## C H A P V.

*Of the treatment where there are SMALL STONES.*

WHEN colicks, vomitings, and heavy pains, come on upon the first symptoms, which are weight and stiffness in the back, the patient knows he suffers under the second stage of the disease, and that there are smaller

smaller or larger stones formed in the kidneys, and about to make their way into the ureters, and thence down to the bladder. He will wish he had taken earlier caution ; but one fit succeeding another in this manner, he will know truly the state of the disorder, and he must now observe a proper conduct.

BETWEEN THE FITS let him be careful in diet, for he may prevent many, he will soften the pain of all, and it is not impossible he may obtain a perfect cure : The same air we prescribed in the former case, will be proper equally in this, but the exercise must be more moderate. I have generally observed people affected with this degree of the disease, to be subject to the disorders of the nerves : Those pairs of them which take their origin from the lower part of the back-bone, are immediately affected in these cases ; and there is so great an agreement between the whole nervous system, that when one part suffers no other is in perfect order. This is to be considered in the present case, and too violent exercises are not to be directed.

EARLY rising is an essential article ; and the more the patient lives in the open air the better. A garden is an excellent scene of exercise for such a person ; and if he can bring  
 2 him-



himself to delight in the productions of it he will find great benefit, because he will be induced to be very much among them. He should accustom himself to walk up hill, and to ride an easy horse ; in general the degree of exercise must be reduced in proportion to the encreased strength of the disorder, not because it is less necessary, but that it cannot be so well borne. The violent exercise of fox-hunting and the like, are fit when the complaints arise only from loose gravel, because the more the motion is, the better it will be discharged, and no harm can arise from it ; but in case of stones it can neither be endured nor is adviseable, for it will make them wound and tear the parts.

In this state of the disease the meals should be temperate, that the body may not be thrown into a feverish disposition ; and wine must be altogether avoided, for it encreases the stony matter. The stomach must never be over-loaded, that it may not be interrupted in performing its office, for the glutinous matter in the urine which unites the gravel, is in a great measure owing to indigestion : suppers should be avoided, and the great meal should be dinner, for the lighter and less the  
break-

breakfast, the better the afternoon's digestion will be performed.

Good ale, not too strong, should be the drink at meals, and with it small-beer by way of more dilution. Tea in the afternoon will be beneficial; and if bread and butter be eat with it, there will be less inclination to supper.

CARES of the world should be as much as possible avoided, and study as carefully: By this it is not meant to deny reading; though I would not have it too much indulged. There are many subjects which employ the imagination, we only caution the Patient against those which concern the judgment.

READING, with these exceptions, is no otherwise hurtful than as it is a sedentary course of life, and will prevent the being so much out of doors as is proper. To read walking under shade in the heat of the day, will be found a time agreeable and healthful: but not too much of the arm-chair; nor any subject which requires deep thought. A course of metaphysics would destroy such a person's constitution.

THUS a life of moderate amusement and moderate exercise under the direction of reason, and with the check of sovereign temperance,



will be a continual state of war against the disease : the fits will be more distant, and they will be less afflicting when they come on ; for they will have less violence, and the constitution will be strong to bear them.

If the distemper be found to decrease under this management, nothing more should be done. When medicines are necessary, the mildest are the best, and when they are not, even these should be let alone : But reason will be as ready to call in their aid when needful, as it is careful to avoid them when they are not.

WHEN something more than this course of regimen and exercise is necessary, the greatest relief of all will be found in SPARRY WATERS : these are so little understood that the very name is unknown, yet there is no other proper : We call those sulphureous which contain sulphur or its principles, and those steely which are impregnated with iron, or its salt ; pure spar is the ingredient in these, and they should be named from it likewise. What is to be done in the fits of this disease, we shall direct presently ; but if they encrease, if they come quicker after one another, or are worse, this must be added in the intervals.

THE sparry waters are those which encrust things that fall into them with a stony matter; it should seem therefore at first sight they were to be avoided, but experience says otherwise, and when the point is fully understood, so does also reason.

SPAR is a mineral substance like crystal, but softer: when pure it seems a kind of clean crystal, and is found in mines: In other places it is suspended in the clear water of springs in such quantity, that pieces of stick put into them are soon covered with a stony crust: and it is found also in various petrifications of shells and other substances.

Its effects have been known long in various subjects, where the substance itself was not known to reside; so slight have been the researches of an earlier philosophy. The LAPIDES JUDAICI of the shops, have been famous in the stone, and the OSTRACITES has also particular praise on the same account. The first of these are the spines or clubs of a sea Echinus petrified, and the other is an oyster-shell in the same condition: Their virtues are not owing to what they were, but what they are, for nothing except their form remains of their original nature, but the substance is the same in both, and this is spar.

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The German miners find the waters of certain springs, excellent against this state of the Gravel, at the bottoms of which the spar is found in round balls, called stalagmites : The powder of these is also given for the same complaints with success ; and Dr. Peyssonell, celebrated for his correct veracity, as much as for his other great qualities, has very lately given an account of the diuretick virtues of a spring on the SOUFFIRERE in GUADALUPE, which Labat found before to be sparry.

FROM these instances, to which more might be added, if ostentation were the purpose, it is evident that spar in different ages and in various places, has been used successfully in these cases. When the solid substance is given in powder, its weight carries it too fast thro' the bowels : but in the state wherein it is suspended in water, it is not liable to that objection ; it passes principally by the kidneys, and as like things attract like, it brings away small stones with it.

IT is on this principle that the sparry waters act ; and they were in use some years ago for these disorders : But often the quantity is small, therefore the effect is limited. There are many waters in England which have the quality very strong ; they are not less plea-

fant to the taste for this, the spar tho' ever so abundant giving them no flavour, and they are generally the clearest waters of all, which abound most with it.

SUCH a water being drank as common water, in the usual course of diet in the intervals, will do great service; and in many cases may perform an absolute cure. The virtue of the Lapis Judaicus in this disorder, was known as early as the time of Dioscorides; he even recommends it in the most aggravated symptoms of the Stone in the Bladder, but that is beyond its efficacy; tho' in this stage of the disease it will be very useful.

IN THE TIME OF THE FITS two objects are to be in view; 1. The discharge of the stone, and 2. The palliation of the symptoms during its passage.

LET the stomach unload itself freely, which it will soon do by the vomitings which accompany the state of the disease; and after this be careful not to load it again.

THERE will be frequent motions as if to stool, but let them not be too much indulged, for nothing is voided; and the case a tenesmus: A falling down of the fundament is the consequence of straining long and often  
in



in this manner; and this is a very troublesome addition to the natural symptoms.

LET the patient change postures often, and walk about gently; the stone is making its way and this promotes its passage.

DISSOLVE two ounces of manna in six ounces of fair water, add this to five ounces of cold drawn linseed oil, and shake all together, and take two spoonfuls of it every two hours: nothing should be drank just after it, for it will succeed best by itself. 'Tis not at all unpleasant; and it will remain upon the stomach when nothing else does: The effect is very great; and it at once alleviates the symptoms, and assists the expulsion of the stone. It takes off the vain tendency to stool, by giving one or more; which though they do not abate the colicky pains, yet are useful toward the discharge of the stone, and the ureters are at the same time softened and made capable of passing the oppressive load the more freely.

AT the distance of an hour from every dose of this medicine, let some strong marsh-mallow tea be drank. A great deal of attention must be paid to these little articles with respect to the course wherein medicines are taken, or they will not succeed. For

want of that attention to what some consider as trifling circumstances, good medicines are often taken without effect. In the present case, all the mallow kind are alike in their virtues, but not in the degree ; nor do they all communicate their powers to water with equal readiness. Medicines made by infusion, fit best upon the stomach, because they are lightest and least disgustful : the stomach is in a very tender state during the fits of this disease ; therefore that form of medicine must be chosen which is least disgustful to it. This directs an infusion of some of the mallow kind, not a decoction ; and the choice falls here upon the marshmallow, because it will give its virtue the most freely without boiling. Slice half a pound of clean marshmallow root, pour upon it a quart of boiling water, cover the vessel, and let it stand till cold, then strain it off : let it settle, and again pour off the clear liquor. A quarter of a pint of this is a dose ; it must be warmed a little, and sweetened with fine sugar ; then add half a spoonful of small cinnamon water. Thus managed it will usually sit quietly upon the stomach, and it will greatly assist the effect of the other medicines.



IF these things do not take effect, let the patient be set in a warm bath.

A GLYSTER is a disagreeable remedy ; but if these easier means do not answer the purpose that should be used ; and for the present case the appropriated kind is a turpentine one. It may be made thus : mix together, in a mortar, the yolk of an egg, and half an ounce of thin and clear Venice turpentine ; rub them about till the turpentine is perfectly dissolved ; then mix by degrees with it an ounce of lenitive electuary, and a little more than half a pint of warm barley-water ; and last of all two ounces of linseed-oil. Let this be given warm, and repeated as occasion requires.

USUALLY with these assistances Nature will get rid of the stone in six or eight hours : perhaps three or four more may be spent in agony in some cases ; but till the disease is very much confirmed indeed, this period, with these remedies, will commonly carry it off.

WHERE there are more stones than one, where the constitution has been long harrassed by the complaint, or when the powers of nature are very much weakened, fits will last  
eight,

eight, ten, or twelve days; but it is not with this extream violence.

IN these cases the pulse will be regular, the body temperate, and there will be no reason against having recourse to absolute diureticks: but these must be used with a careful hand; and there are some little regarded, which will answer better than those in vulgar use.

CLEAN a parcel of eggshells from the inner skin, and calcine them till they are very brittle, then grind them to fine powder: mix two drams of this with half a dram of sal prunellæ, and the same quantity of powder of burdock seeds; grind all well together, and divide this into five doses: one is to be taken every eight hours, drinking after it a quarter of a pint of the following infusion.

SLICE thin four ounces of the roots of fennel, three ounces of parsley-root, and an ounce and a half of the roots of REST HARROW. Pour upon these two quarts of boiling-water, and let them stand close covered up till cold; then pour off the clear liquor through a sieve, sweeten it to the palate with fine sugar, and add a little old hock to give it a flavour. This is to be taken with the  
powders



powders as already directed ; and a draught of it once in three or four hours alone.

DURING the use of these medicines, great care must be taken to avoid high seasoned foods and strong liquors : and if the fit continues, once in three days these must be in part omitted, and the medicines before described taken in their stead. In this case the oily medicines should be taken exactly as there directed ; and one dose of these in the four-and-twenty hours.

GENTLE exercise will greatly promote the passage of the stone ; and the friends of the patient should use all methods to keep up his spirits : a dejection of mind is a natural symptom of these long fits of the stone, but it should by no means be indulged. The efforts of nature for the discharge of the stone are languid when the spirits are low, and they grow more forcible as they get more strength. In all nervous affections, company and amusement will do a great deal toward a cure, but in these, which are symptomatick, most of all.

IF the fit continues, and no stone is discharged after several days use of these remedies, it will be proper to change them ; and the materia medica is not so limited, but this

may be done in the present case, without using any but what are efficacious. More good is obtained in obstinate cases by the change of medicines, than even by the continuance of the most excellent. If they do not take effect in a moderate time, the stomach becomes accustomed to them, and they will then take less and less. New remedies with equal power, will therefore have more efficacy.

NOR is this all: we see that certain medicines are capable of great effects, after the use of certain others, but not otherwise. Sarsaparilla is an eminent instance of this: unless mercury has gone before, it will not cure the venereal disease, at least not in England; but after that medicine, it will take an effect which even a repetition of a salivation would not.

THESE are the advantages of a rational change of medicines in long complaints; we know the effect, though we do not always understand the cause: The physician does this service by his attendance and attention, and thus far we mean to direct the patient, to whom it may not be convenient to employ any, to supply his place to himself.



DROP upon a tea spoonful of fine sugar powdered, four drops of BALSAM OF PERU ; take it without drinking any thing after it, and repeat the same dose once in six hours.

GATHER a quantity of live millepedes, bruise them to a mash in a marble mortar, and by degrees pour to them as much Rhenish wine as will make them thin and fluid ; strain out this, pressing it hard, and let the patient take a large spoonful four times a day.

LET the clysters be repeated as shall be occasion ; and after the third or fourth dose of these new medicines, let the patient be put into a warm bath.

THERE are cases in which the load is great, and the power of nature very little ; and in these the process of the discharge of the stone will be tedious ; but I have not yet met with any case in which the stone was of a bulk capable to be discharged, where that relief was not obtained by the assistance of one or other of these sets of medicines. The last method of using them where all are necessary, is in the course already directed, for they succeed thus in a regular manner, one kind making way for another.

## C H A P. VII.

*Of a large STONE in the KIDNEYS.*

**T**HE patient understands already that this is a desperate case as to relief; but a great deal may be done in palliation: and at least as much is to be expected from conduct as from medicines.

THE first point to know is, that the stone is too big to be discharged, for till that becomes the case, it is to be referred to the preceding kind. This being known, the attention is to turn on two points, to prevent the encrease of it; and to avoid inflammation in the parts.

WHEN a person knows he has such a stone, while it lies easy, let him not consider it farther as a disease; but in cases of extream pain, medicines are always to be called in. When the stone, by change of position, by encrease in one particular part, or by another accident, hurts the kidney, pain follows, and inflammation: and if that be not prevented by great care, an ulcer; which is the worst of all states.



IN the common conduct of life, under this disorder wine is to be avoided as poison ; and all strong meats and high-seasoned dishes. The diet must be plain and simple, the drink mild beer, and the degree of exercise moderate.

EVERY state and degree of the stone requires a different degree of exercise ; that which would be most proper in loose gravel, would be very wrong in this case, it would provoke the very symptoms we wish to avoid, forcing the stone to hurt and wound the parts.

MILK is an excellent supper in this case, and there are so many ways of eating it, that the patient may, without any great constraint upon himself, always use it for that meal. There is another sacrifice, which, if he will make to his complaint, he will rarely, even in this deplorable case, have occasion for medicines : this is, if he will give up his usual breakfast, whatsoever that be, and take in the place of it LINSEED TEA. This is emollient and softening in so eminent a degree, that I have known those who were evidently in this situation, continue for many years without any severe symptom, the urine being regularly secreted all the time, though  
the

the stone almost filled up the kidney, merely by the use of it.

WHEN inflammation threatens with violent pain, let the patient be blooded, and twice a day let there be given emollient glysters; the medicine of oil and manna, with the marshmallow-tea, should also be taken: and if the case grow worse, and there is appearance of an ulcer, BALSAM OF CAPIVI is the great relief. This is to be taken in the same manner as the Balsam of Peru in the other case, on powdered sugar, but the dose may be larger; six drops, or eight, may be taken at a time: and upon these two remedies, and a low diet, is to be the great dependance.

NATURE has sometimes, in extream cases of this kind, performed a cure by the discharge of the stone through the muscular flesh of the back; and there have been surgeons bold enough to talk of attempting the same thing by cutting; but they dishonour the profession by their rashness.

WE have two or three instances well attested, and accurately recorded in the writings of physicians; wherein the operation has succeeded, but it is more than a thousand



stand to one against it : No physician I think will advise it ; and if there should be a surgeon so hardy, let the patient know his case from this plain state of it, and refuse him.

## C H A P. VIII.

*Of the regimen for a STONE in the BLADDER.*

**T**H E most extreme case of the gravelly kind, is that of the large stone in the bladder ; and there can in this be very little hope of relief ; since the stone is too big to pass, and too hard to be dissolved by medicines.

I KNOW what has been written on this subject, by those whose interest it is the world should think medicines can dissolve the stone in this condition ; but let the patient no more regard it than I do, or than others who have had opportunities of experience. The thing is not within the power of medicine ; where it is possible to know the danger, something may be done by way of prevention of this miserable malady ; but that is rarely the case, for the patient commonly first discovers that he has it, when it is past cure.

WE have directed a diet and a regimen, together with such medicines as best tend to  
take

take away the glutinous quality of the urine, which gives it the power to unite the particles of gravel into a stone; and a doubly strict regard to these is necessary in this case, for where the concretion of a stone is once begun, less good is to be expected.

'Tis hard to say in what cases relief of this kind has been certainly obtained; for I believe when a stone is too large to be voided, and is to be felt by the catheter, the attempt to dissolve it by all methods hitherto known is vain: Perhaps a remedy may hereafter be found, but if ever it should it will be a simple medicine, as bark for agues, not a mixture of many.

So far as a knowledge of the fact can be obtained in these cases, I think I have found the following easy method successful.

A patient having voided with great difficulty a stone, as large as possibly could pass; and this being found on examination exactly of the nature and structure of those most common in the bladder, his friends were alarmed for him with the terror of a larger stone; for it is evident this was encreasing coat on coat, and if it had lain a very little longer, could not have been voided.

He took every day twelve millepedes alive, swallowed them as they rolled themselves up,  
and



and drinking after them a basin of GOLDEN ROD tea : A draught of which last he also took alone twice at least a day : he did this five months, and never afterwards had any symptoms of the stone.

WHEN the disease is grown to its extreme height, all violent exercise must be avoided ; riding on horseback, or even in a coach on rough ground, will occasion the stone to wound the bladder, and bloody urine will follow. Much walking will sometimes take the same effect. But some exercise is necessary to the health in other respects ; therefore the patient must not confine himself to his chamber : His residence should be in the country, and he should walk as often and as much as he can without pain.

ALL he can hope is palliating the symptoms, which will be done by temperance and this regimen ; and preventing the encrease of the stone, which millepedes and golden-rod tea will do, better than any other medicines I have seen experienced. If the pain or danger be so extreme, that he prefers the operation of cutting to the enduring his disease, that remedy is certain ; and England abounds with surgeons under whose hands the pain is

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but

but for a minute, and the danger scarce any thing.

## C H A P. VIII.

### *Of disorders resembling the GRAVEL and STONE.*

**T**O the plain account I have endeavoured to give of the several stages and degrees of gravelly disorders, I apprehend nothing can need to be added for the service and comfort of the patient (the sole end for which this was written) but a caution that he do not deceive himself, by mistaking distempers of a different kind, for one or other of these. The bladder is subject to schirrhous excrescences, and these will mislead many, being understood to be stones; but the hand of the surgeon will be able to determine this. He must use the catheter and he will perceive some difference to the touch: for tho' the schirrous lumps are firm, they are not hard like stones. He will also perceive these are fixed in their place, as the stone is always loose and free: this is the certain proof, and there is no other.

SCORBUTICK people, and sometimes those of sedentary lives, and hypocondriac habits,



will have pains like those of the stone, and their urine will have a large sediment; but this does not fall at once to the bottom in voiding the urine, which true gravelly or stony matter always does; nor has it that coarse aspect. It is found in great quantity after the urine has stood to cool and settle, and then it appears as a fine pale powder, with some glittering particles among it.

THIS is not the gravel, nor any thing of that kind: it is a symptom of a different disease, and requires a different treatment; too particular for this place, and foreign to the subject.

F I N I S.

different parts of the world, and  
 that there was a large collection of  
 this kind of wood in the island in  
 which the vessel was wrecked, and  
 that there was always some of it in  
 the vessel. It is found in great quantities  
 and the wood has been used for fuel  
 and for other purposes. It is a very  
 valuable wood, and is much used  
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